# NASA Procedural Requirements

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**COMPLIANCE IS MANDATORY**

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## Subject: Aircraft Operations Management w/Interim Revision to Chapter 3

**Responsible Office: Aircraft Management Division**

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# CHAPTER 5: Aviation Safety

## 5.1. Guidelines

5.1.1. NASA will take all necessary steps to avoid loss of life, property, and injury to personnel, as well as prevent mission or test failures. Accordingly, Center Directors will support and maintain a well-defined aviation safety program and organization in accordance with established guidelines. The aviation safety program should be formalized and implemented by safety professionals, who should provide timely monitoring, surveillance, and support. The safety program should address requirements of the aviation ground environment as well as the flight environment.

5.1.2. Aviation safety is a line management responsibility. Consequently, managers at all levels have a direct responsibility for the safe conduct of aircraft operations under their control. All aviation safety-related contracts should be written to ensure compliance with these guidelines.

5.1.3. Mishap prevention in NASA is based upon the philosophy that mishaps can be prevented and that mishap prevention is an inherent function of leadership and management. NASA's major involvement in aeronautics dictates a major involvement in aviation safety, not only by the establishment of a formal aviation safety program, but also through day-to-day application of safe practices and procedures in its research and technology programs.

## 5.2. Aviation Safety Responsibilities

5.2.1. To ensure effective implementation, an aviation safety program should be applicable Agencywide and conform to each organization's aviation management structure. To clarify the program, the NASA aviation management structure and safety responsibilities and functions are outlined below.

5.2.2. The Associate Administrator, Office of Safety and Mission Assurance, establishes aviation safety program requirements, and provides independent oversight of NASA aviation safety. The Associate Administrator shall provide the NASA Administrator with an independent assessment of NASA's aviation safety status and immediate information on critical safety issues.

5.2.3. The Director, Safety and Risk Management Division, is the Headquarters focal point for aviation safety oversight. The Director is responsible to the Associate Administrator, Office of Safety and Mission Assurance, for establishing aviation safety policy and ensuring its implementation through verification of effective aviation safety programs throughout the Agency where aviation assets are deployed. In addition to other duties such as attending meetings, reviews, and other forums relating to aviation safety, as well as providing for adequate mishap reporting and analysis, the Director`s primary duties relating to aviation are to provide systems safety oversight to ensure that Center aircraft operations comply with NASA safety policy and to coordinate with the Aircraft Management Team (AMT) on Office of Safety and Mission Assurance requirements affecting aviation safety and reporting.

5.2.4. The Associate Administrator, Office of Management Systems and Facilities, in accordance with NPD 7900.4, is responsible for Agency policies and other matters related to NASA aircraft management. The Associate Administrator will provide direction to the AMT regarding its coordinating role with NASA Centers and the IAOP.

5.2.5. The Lead, AMT, is responsible for coordinating the development of an Agency aviation safety program in accordance with Agency policies. The Director is responsible for providing aviation safety policy, guidance, and oversight. In addition to attending meetings, reviews, and other forums related to aviation safety, the Director`s primary duties in this area are to establish NASA aviation safety policy guidelines for research and development, program support, and mission management aircraft operations and to assess Center aviation safety programs for compliance with NASA`s aviation safety policy. The AMT may also participate in selected aircraft mishap investigations.

5.2.6. The Enterprise Associate Administrators who operate and maintain aircraft assets have management responsibility for aviation safety and will ensure implementation of aviation safety programs for their respective Centers. This responsibility applies to allocation of aviation resources to safely meet objectives and program goals, to encourage and promulgate safety awareness, to conduct mishap investigations, and to develop corrective actions.

5.2.6.1. A senior, single point of contact for aviation safety and aircraft operations management shall be designated within each Enterprise to provide a focus with the Office of Safety and Mission Assurance and the Office of Management Systems and Facilities for all aviation safety and aircraft related matters.

5.2.6.2. The Associate Administrator, Office of Aero-Space Technology manages aviation safety-related research and technology programs.

5.2.7. The Aerospace Safety Advisory Panel (ASAP) was established as an advisory committee to NASA by 42 U.S.C. 2477, Section 6 of the NASA Authorization Act, 1968, as amended. The Panel`s charter is to review and evaluate program activities, systems, procedures, and management policies and provide assessments of those areas to NASA management and to Congress. The panel provides independent advice on NASA aviation safety-related issues to the Associate Administrator, Office of Safety and Mission Assurance and to the Administrator.

5.2.8. Center Directors are the primary NASA officials responsible for ensuring the safe operation of all aircraft assigned to the Center and for establishing and implementing an aviation safety program. The Director is responsible for determining airworthiness and flight readiness review requirements, establishing operating procedures, and for ensuring that the flight objectives satisfy programmatic requirements.

5.2.9. Center Flight Operations Managers are the managers of the aviation departments or organizations at the Centers and are the senior line personnel assigned aircraft operations responsibilities. The manager depends on the Aviation Safety Officer (ASO) to identify mishap potentials and assist in administering the mishap prevention program. The manager may not delegate the line responsibility for the prevention of mishaps. A manager's experience, leadership, and philosophy are decisive factors in ensuring safe operations.

5.2.10. Pilot-in-Command

5.2.10.1 The NASA aircraft PIC is responsible at all times for the safe operation of the aircraft and the safety of the passengers and shall be the final authority as to whether a flight shall occur. In addition, the PIC is the final authority as to whether a flight shall be delayed or diverted for reasons of weather, aircraft conditions, or other safety-related considerations.

5.2.10.2 The PIC shall ensure that passenger briefings are conducted and that they include pertinent egress, safety, and emergency information.

5.2.11. All aviation supervisory personnel will ensure that their aviation activities include adequate safety provisions and include the development of aviation safety enhancement techniques, standards, and procedures.

5.2.12. Each NASA employee will report potential or actual aircraft operations-related hazards to the ASO, who is responsible for prompt notification of safety issues to the appropriate designated official.

5.2.13. All personnel, including contract personnel associated with NASA flight operations, shall conduct aviation-related activities in a safe and responsible manner and in compliance with NASA aviation guidelines and safety programs. Contracts involving or affecting aviation operations shall include requirements to comply with aviation safety requirements. Aviation safety is the personal responsibility of every person involved in aviation-related activities.

## 5.3. Aviation Safety Officer (ASO)

5.3.1. An ASO will be appointed at each appropriate Center by the Center Director or designee. However, the ASO is authorized to take a safety issue to a higher level of management. If possible, the ASO position should be a full-time responsibility. Since the ASO serves as the manager's focal point for aviation safety matters, the ASO should report directly to the senior aviation manager responsible for risk management. The ASO also acts on behalf of the Center Director when discharging this responsibility. The ASO shall promote aviation safety measures and use all resources available to promote mishap prevention. The ASO will be on flight status and be current in assigned aircraft.

5.3.2. The ASO will have a sufficiently adequate background in aviation and familiarity with the Center and its aviation programs in order to implement and promote an effective safety program.

5.3.3. The ASO should attend a recognized aviation safety officer's or accident-prevention course of at least 2 weeks` duration and should establish a continuing education program to ensure adequate knowledge to discharge the duties of the office.

## 5.4. Aviation Safety Program

5.4.1. Each level of aviation management is responsible for the aviation safety program. The Director or Aviation Manager responsible for aviation safety and risk management at each level is assisted by a safety advisor who is an integral part of the manager's staff. The program is supported by other safety personnel as required. Reviews and staff visits by the AMT and by Headquarters safety personnel provide oversight and monitoring of management's effectiveness in aviation safety and technical and operational assistance for improving the overall safety programs.

5.4.2. The highly diversified aviation activities within NASA require a tailored aviation safety program for each flight activity. Although aviation safety is everyone's business, the primary responsibility for each Center's aviation safety program rests firmly with the Center Director.

5.4.3. Each Center will establish a documented aviation safety program. Information on aviation safety will be contained in the ASO Handbook. In the interim, Center aviation safety programs will, as a minimum, address the following areas:

5.4.3.1. Risk assessment and hazard analysis.

5.4.3.2. Mishap and near midair collision reporting and investigation.

5.4.3.3. Project and program safety plans.

5.4.3.4. Design reviews, aircraft configuration management, and flight and test readiness reviews.

5.4.3.5. Training, education, and awareness.

5.4.3.6. Aviation safety inspections and surveys.

5.4.3.7. Hazard reporting and investigation.

## 5.5. Interfaces with Other Agencies

5.5.1. NASA aviation activities interface with the aircraft industry, Department of Transportation (DOT), FAA, DoD, and foreign governments. Those entities possess unique resources that should be used whenever possible to enhance the NASA aviation safety program.

5.5.2. Industry. Special aviation safety provisions contained in contracts should permit or require exchange of accident information concerning the types of aircraft involved. NASA safety personnel should participate in design reviews and inspections during the acquisition phase of aircraft and other aviation equipment.

5.5.3. Department of Transportation. NASA aviation safety has a direct interest in FAA flight services and facilities used by NASA aircraft. These include air traffic procedures, enroute, restricted, and unrestricted airspace, and local flying and training areas. Cooperation with FAA should continue to enhance a mutual understanding in developing safe aviation procedures. Research and development activities present a unique opportunity for NASA and FAA cooperation to enhance safety.

5.5.4. Department of Defense. NASA utilizes many military airfields and aircraft common to all military services; therefore, coordination with those services is required. Use of the various U.S. Air Force, Army, and Navy safety publications, mutual exchange of accident prevention data, and participation in joint safety efforts can continue to provide mutual benefits. Safety and accident investigation provisions should be included in joint agreements with DoD agencies for joint use or loan of aircraft.

5.5.5. Foreign Governments. Because of the diversity and worldwide scope of NASA aviation operations, communication between NASA aviation personnel and the international aviation community is encouraged. Much can be learned from experiences garnered from these international sources. Aviation safety is focused on saving lives and property and does not have political or national boundaries.

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